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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,875	12/05/2003	Rino Micheloni	02-AG-148	8484

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EXAMINER

NGUYEN, VAN THU T

ART UNIT PAPER NUMBER

2824

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/729,875

Applicant(s)MICHELONI ET AL. **Examiner**

VanThu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 3-8, 10-15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1-19 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, lines 9, do applicants really mean “repeatedly applied to the memory cells in the group until the programming state thereof is not ascertained to correspond to a desired programming state”? Same for claim 18, lines 15-18.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 9, 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (U.S. Patent No. 6,426,892) in view of Norman (U.S. Patent No. 6,438,665).

Regarding claim 1, Shibata discloses, in FIG. 13B, a method of programming an electrically programmable memory, the method comprising:

applying a programming pulse to those memory cells in a group to a desired programming state (“PROGRAM” step ST13); and

repeating the steps of accessing and applying for the memory cells in the group to the desired programming state (“1st VERIFY READ” step ST14, “2nd VERIFY READ” step ST15, “ARE ALL DATA “1”?” step ST16), wherein

after the programming state of a prescribed number of memory cells in the group has been ascertained to correspond to a desired programming state (after “1st VERIFY READ” step ST14) accessing again the memory cells in the group and re-ascertaining the programming state of the memory cells whose programming state was previously ascertained to correspond to a desired programming state (“2nd VERIFY READ” step ST15); and

applying at least one additional programming pulse to those memory cells in the group whose programming state is not re-ascertained to correspond to the desired programming state (go back to “PROGRAM” step ST13 if result is “NO” from “ARE ALL DATA “1”?” step ST16).

However, Shibata does not disclose the initial step of accessing a group of memory cells of an electrically programmable memory to ascertain a programming state thereof.

Norman discloses, in Abstract, stored data from flash memory cells are pre-read and compared with new data in order to prevent writing of new data to the flash memory cells.

Since Shibata and Norman are both from the same field of endeavor, the purpose disclosed by Norman would have been recognized in the pertinent art of Shibata.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art compare stored data and new data prior to writing new data into the

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memory cells for the purpose of reducing stress, increasing the operating life, and achieve better system reliability on the memory cells (see Norman, column 7, lines 26-38).

Regarding claims 2, 9, Shibata also discloses that the electrically programmable memory EEPROM (see column 1, lines 21-30) (for claim 2); repeating verifying steps ST14 and ST15 (for claim 9);

Regarding claims 16-19, they are rejected under U.S.C. 103(a) because they recite the same limitations in claims 1-2, except they are drafted in apparatus format. In addition, any integrated circuits are built on a substrate, therefore, "circuit supporting substrate" feature is inherent in Shibata.

Allowable Subject Matter

6. Claims 3-8, 10-15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881. The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 10, 2005



VanThu Nguyen
Primary Examiner
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